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ABSTRACT

This publication focuses on the skilled crafts in Germany, including the training system and professional prospects. It includes the following articles: "A Valuable Tradition" (Dieter W. Benecke) and "The Skilled Crafts in Germany: Training System and Professional Prospects" (Volker Thomas). The latter article covers the following topics: the economic and social importance of the crafts today, training and new blood in the crafts sector, examples of skilled crafts (glass, sailmaking, wrought iron, sun- and wind-generated electricity, acoustics, machine building), financing in the handicraft sector, flexible autonomous organizations within the economy, the individual aspect and the freedom of choice, services galore, and the art of design. Addresses of handicraft organizations in various cities are provided. (KC)

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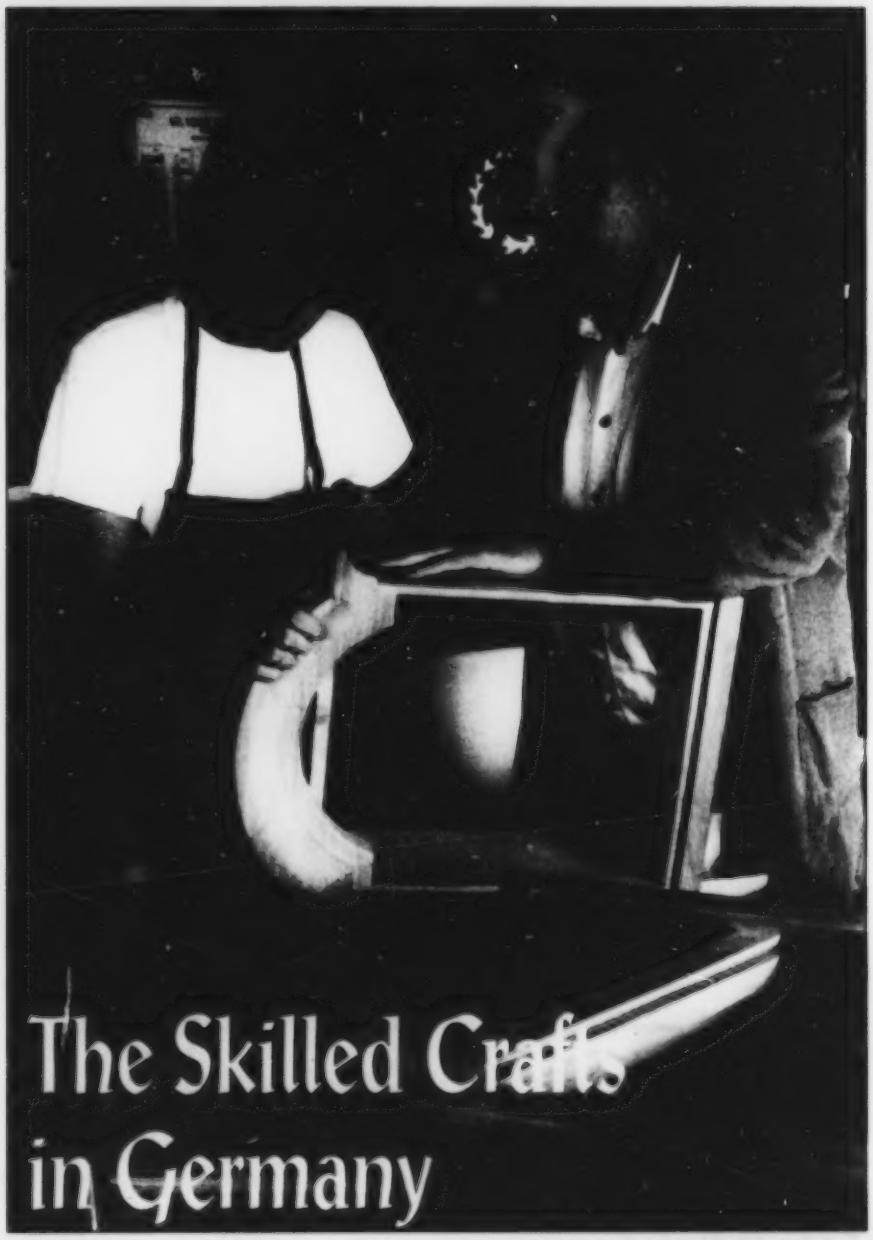

The Skilled Crafts in Germany

The Skilled Crafts Today

The Training of Apprentices

The Master Craftsman's Examination

The Handicraft Code

Further Training

Professional Prospects

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Master painter renovating the historic coat of arms on the capitals in the Arkadenhof, University of Bonn

Photo: D. Gräfingholt

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A valuable tradition

An old German proverb, in fact, a very German proverb, states that *"Handwerk hat goldenen Boden"*, i.e. "A trade in hand finds gold in every land". Nevertheless, the economic, social and, of course, cultural importance of the crafts, i.e. the skilled trades, in Germany endows them with an international dimension transcending Germany's borders, thus making it worthwhile to focus our attention on them within the international dialogue.

Without the handicraft tradition, German industrialization would probably have taken another path. The development of large industrial enterprises has been greatly influenced, in part, by small handicraft firms. The traditional observance of quality in the skilled trades, which resulted from the strict rules imposed by the former guilds, was carried over to many industrial enterprises, thus making "Made in Germany" the hallmark of quality. As a result, compared with developments in the United Kingdom, which were very much influenced by large-scale industrial and capitalist concepts, the industrialization process in Germany took shape more slowly – compared, say, with France – but with less governmental presence.

Again, compared with other countries, the former social responsibility of the head of a handicraft firm, i.e. the master craftsman, laid down in the guild regulations, has likewise turned out to be a positive tradition. Admittedly, the setting-up of the social security system in Germany was politically motivated because Reich Chancellor Bismarck wanted to pre-empt and counteract social unrest. Even so, social policy was so firmly enshrined in the old regulations governing the craft trades that it did not have to be artificially created: the experience already gained provided a valuable basis for its development.

The crafts also played an emotionally-positive role, especially in music and literature, which cannot be said of other economic sectors. Richard Wagner's opera *The Mastersingers of Nuremberg* is an internationally-famous example of this. Numerous German folksongs are concerned with travelling journeymen and their duty to look around and learn in their own country or abroad, linked with the "sorrow of separation from their loved ones". The years of apprenticeship and travel also play an important part in literature as illustrated by the novels and other narrative works of such famous German authors as Goethe and Eichendorff.

The reference to traditions, of course, must not tempt us to conclude that the crafts have now lost their *raison d'être* as a result of modern computer-controlled production processes. The handicraft sector continues to provide the vocational training process with a wide variety of incentives. Both in the manufacture of individual items – such as in the case of joiners and locksmiths – and industrial design – such as in the building sector – and not least in the maintenance and repair of finished industrial goods, the skilled trades continue to play an important economic role which will be dealt with in the following individual contributions.

It is for this reason that such a highly German phenomenon as the development of the craft trades can be instrumental in initiating discussion on economic order and the organization of the vocational training system compared with other countries. The fact that the crafts do not only depend entirely on manual skill, but also on the demanding combination of head (design), hand (execution) and heart (commitment) possibly explains why the old adage *"Handwerk hat goldenen Boden"* still applies in Germany today. ❐

Dr. Dieter W. Benecke
(Chairman of Inter Nationes)

The Skilled Crafts in Germany

Training system and professional prospects

Volker Thomas

The economic and social importance of the crafts today

They provide component parts for the American "Spacelab". They make decorative banisters in precious woods. They mend shoes, repair washing machines, cover roofs. Everyone needs them – and if something isn't working, preferably at once.

We are talking about skilled craftsmen, of *"Handwerk"*, in Germany. There are craft trades in all the countries on earth, jobs requiring manual skill. And yet, the definition of what is known as *"Handwerk"* varies greatly. This is evident in the fact that more and more foreign visitors prefer to use the German word *"Handwerk"*, instead of the English "skilled crafts" or the French *"métier"*.

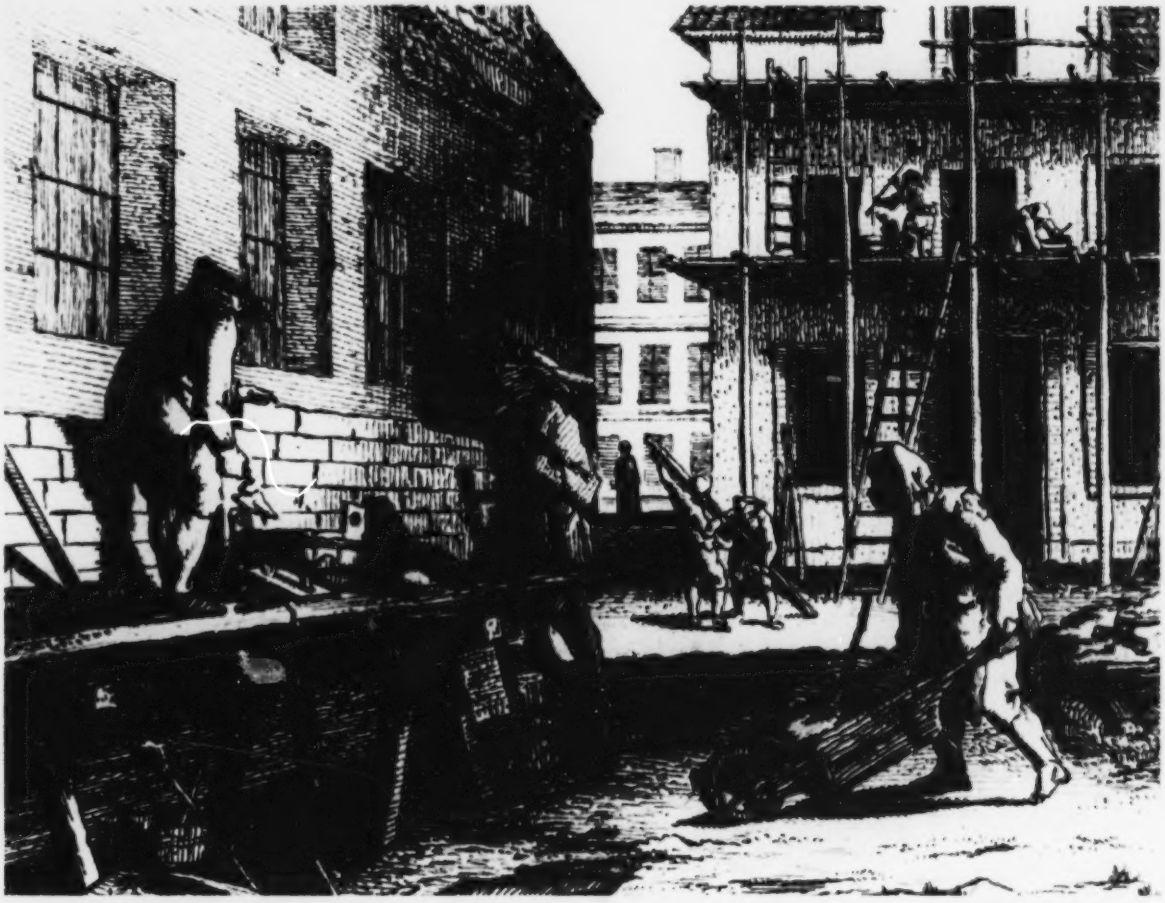
What is *"Handwerk"* actually?

In Germany, a firm with a workforce of 500 persons can be just as much a *Handwerksbetrieb*, i.e. a skilled craft establishment, as one with five or ten employees. There is no statutory limit to the size of a firm. Conversely, a firm employing six persons engaged in mass production is not allowed to call itself a *Handwerksbetrieb*.

And here is a further peculiarity: German skilled craft businesses are autonomous. This is not only cheaper than state administration: it is also better because the chambers are familiar with skilled craftsmen's problems.

There are 56 handicraft chambers in Germany to which reference will often be made. They supervise the training of apprenticeships, hold examinations for journeymen and master craftsmen, decide whether or not to admit new craft trades and advise individual firms on operational or further training matters.

This represents a large measure of private autonomy: it is the chambers, not the state, which are responsible for everything to do with *Handwerk*. Anyone who is not a member of the chambers cannot set up a *Hand-*



With innovations and inventions, modern skilled crafts continue a tradition which has existed since the Middle Ages

Photo: Hans-Joachim Bartsch

werksbetrieb, i.e. a skilled craft business, in Germany. The role of the state is restricted to legal supervision.

A long tradition

In the late Middle Ages, the first free municipal citizens established *Zünfte*, i.e. guilds, to rid themselves of the predominance of the feudal aristocracy. As a result of their diligence, they laid the foundations of the prosperity of towns and cities. Their claim to have a say in the destiny of the community represented the point of departure for the development of modern democracy.

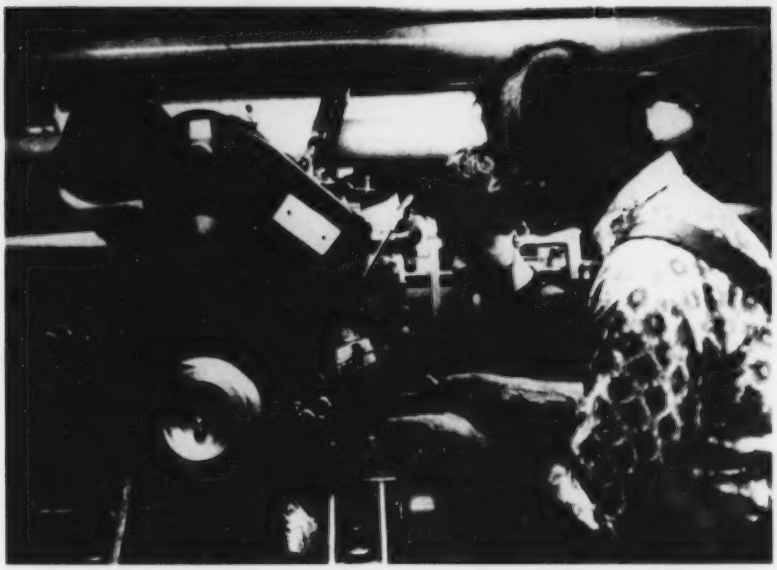
With their inventions and innovations, the modern skilled trades are continuing a tradition which has existed since the Middle Ages. Even in the pre-industrial age, all technical inventions and renovations came from artisan workshops. Large German enterprises often emerged from such workshops in the 19th century. The brand label "Made in Germany" became the hallmark of quality on the world markets.

The optical workshops of Carl Zeiss and Ernst Abbe in Jena, for instance, grew into the international company of *Zeiss-Optik*.

Ernst Leitz laid the foundations for the Leica Works in Wetzlar, world famous for its cameras. Motor-vehicle production in Germany has its origins for the most part in the workshops of Gottlieb Daimler and Carl Benz in Stuttgart. The music instrument industry was founded by Heinrich Steinweg and Matthias Hohner. The sewing machines, which Michael Pfaff once manufactured in his workshop in Kaiserslautern, are used throughout the world today. Last but not least, Ottmar Mergenthaler, a compositor who emigrated from Germany in the late 19th century, operated the first linotype printing machines in New York.

Dynamic change

Today, many craft shops have developed into typical industrial enterprises – and have thus departed from the handicraft sector. At the same time, new skilled craft businesses are constantly emerging or adjusting to the changing conditions.



Training is carried out mostly in productive work which lowers the firm's costs and enhances motivation Photo: Ausserhofer

Forging, pottery and weaving, for example, have long since been replaced by industrial production processes. Even so, one craft trade has remained: the manufacture of individual, artistically-designed items or those specially ordered. A blacksmith seldom shoes horses nowadays, but he does complete orders for banisters or garden gates. There is a demand for this.

Other trades have changed the work they perform and thus their occupational image. The job of bodymaker, for example, has developed from that of cartwright, the trade of gas fitter and plumber from that of locksmith. Completely new trades came into being in the train of technical development: photographer, motor mechanic and electrician, central heating and ventilation engineers, electrician. This reveals how flexibly the craft trades are able to adjust to technical development and push it yet further ahead on their own initiative. In cooperation with the local *Fachhochschule* (college for higher professional training), the Koblenz Chamber of Handicraft is familiarizing heating engineers with various heat-exchange processes using solar collectors. There may soon be a new trade of solar engineer.

The craft trades in figures

Today, the craft trades represent the most versatile economic sector in Germany. Craft enterprises cover the requirements in the way of deliveries and service for private consumers, industry and commerce, as well as the public sector. They are able to cater for individual demand with a differentiated provision of services.

The 766,000 small and medium-sized craft businesses (position: Spring 1994) form the core of the German economy. They typify the *Mittelstand*, i.e. middle class, to which most enterprises belong.

The craft businesses in Germany employ a total of 5.3 million persons. In 1994, master craftsmen trained 570,000 apprentices. In this context, more training places were offered than could be taken up in the western part of the Federal Republic as opposed to the new *Bundesländer* (federal states) where there is still a shortage of apprenticeships.

The annual turnover of all handicraft and similar firms in Germany amounted to DM 684 billion in 1993. That is almost a quarter of the overall net domestic product (the sum of all domestic commodities and services after deduction of the advance payments of consumed goods).

The importance of the skilled crafts in the new *Bundesländer*

The craft trades have developed into the engine of the upswing in the new, i.e. East German, *Bundesländer* (federal states), and, in the five years since German unification, become the major economic factor.

According to the ZDH (Central Association of the German Handicrafts), the number of persons employed in the crafts sector in the new *Bundesländer* increased from 426,000 in 1989 to over 1.1 million in 1993. This means that every sixth person was employed in this sector at the end of 1993.

During the same period (1989–93), the number of craft businesses rose from 85,000 to 138,500. They train the majority of apprentices in the new *Bundesländer*. The ZDH estimates that there were approx. 50,000 new indentures in 1994, i.e. 20 % more than the previous year. The total number of apprentices in the new *Bundesländer* came to 113,843; young persons at the end of 1993. By comparison, this figure was just under 32,000 in 1990.

True, the situation is still strained: the demand for places exceeds availability. Even so, the *Länder* (states) and the handicraft chambers are making great efforts to provide all young persons, who have failed to obtain an apprenticeship, with a place at their own inter-plant training centres.

Overall, according to surveys made by the handicraft chambers, the mood is positive. In 1994, craft firms achieved a turnover increase of almost 7%. The hectic phase of setting up new firms whilst many others were simultaneously closing down seems to be over. The opportunities for numerous new craft businesses to consolidate and es-

tablish sound foundations are increasing.

The ZDH sees one great problem, however: the large number of employees who have not been properly registered in Germany and the growing number of workers coming from the other EU member states. German jobs have been lost because of this development. This not only applies to the new *Bundesländer* although, there, it is particularly conspicuous in the building trade. The labour costs of employees from, say, Portugal, are often 50% cheaper and have led to a distortion of competitive conditions to which many small and medium-sized firms have already fallen victim. The ZDH would like to see a European directive with regard to the dispatch of employees and demands that foreign workers in Germany be paid according to German conditions.

The environment and the crafts – a new market

Anyone who has learnt his trade knows how to satisfy customers demanding environment friendly products. And they are on the increase. The environment-conservation market is becoming a lucrative business sector.

For some time now, training and further training has attached great value to the ecological factor. Painters and varnishers are learning how to handle water-soluble paints and solvent-free wood preservatives. Heating and air-conditioning engineers are familiarizing themselves with energy-saving methods and solar technology.

The environment ensures turnover. Motor-vehicle-workshops earn on the new special exhaust-emission control which is compulsory for cars annually. The thermal protection and energy-saving regulations, designed to reduce the emission of carbon dioxide, have provided the building and development trade with new market opportunities. The planned regulations for the recycling of old cars and computer scrap are offering motor-vehicle workshops, radio and television engineers, and office-information electronic experts, with new opportunities of employment.

Bookbinder and apprentice Photo: Ausserhofer

Today, the environmental conservation sector already accounts for 14% of the total turnover of craft firms. True, the occupation of "supply and disposal expert" has now been established in the technical environmental protection sector. The work is concerned with water works, sewage farms and rubbish dumps.

Even so, environmental protection is now an integral part of craft firms' commitments. This seems to be particularly the case as far as young master craftsmen are concerned. A survey of 700 new master craftsmen of the 1993/94 year group, conducted by the Chamber of Handicrafts in Koblenz, revealed that 72% of the respondents want to use environment-friendly raw materials and manufacture in an environment-conserving manner. 10% are even planning the development of environment-compatible products.

A concrete example of this is provided by the Chamber of Handicrafts in Düsseldorf. It is dispatching energy and waste management consultants into the craft firms. And at its environment centre it constantly presents craft businesses which are operating in a particularly energy-conserving and environment-friendly manner.

Motor mechanic is the favourite apprenticeship trade

The most popular craft trades among young persons in Germany are motor mechanic, hairdresser and electrician. At a nationwide figure of 25,000 newly concluded articles of apprenticeship in 1993, the occupation of motor mechanic is top of the charts once more. In 1994, however, the number of new motor-mechanic indentures dropped by 9.1% compared with the previous year. In the electrical skilled trade sector, on the other hand, there was an increase. The number of new apprenticeships in this craft was 7.8% greater than in 1992.

The largest growth rates were in the building trade. There were 35.4% more new apprenticeships for the occupation of roofer and 21.5% more for the bricklayer's trade. The carpenter and gas and water engineer trades also experienced increases of over 10%.

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Training and new blood in the craft trades sector

The dual system

One of the most important functions of German *Handwerk* is the training of young persons embarking on their career. By tradition, the craft trades train their own young blood. The length of training and organization is regulated by the Handicrafts Code and the 1969 Vocational Training Act. Accordingly, young persons are trained with a "dual system". This means that an apprentice – also known as "trainee" – receives practical on-the-job instruction. He also goes two or three times a week to a vocational school. There he learns the theoretical basis of his apprenticeable trade and receives general education, too. Trade instruction accounts for about two-thirds of the instruction, the remainder being devoted to general education.

On-the-job training takes place in the conditions and with the machines and facilities which correspond to the state of the art. As a result, a trained worker can subsequently take on a qualified job immediately. A useful side-effect: training is mostly carried out in productive work. This lowers the costs for the training firm and enhances the motivation to learn.

Small and medium-sized firms, which are not in a position to teach all the skills required by a particular craft trade – such as the lack of specific machines, for example – or which want employees to specialize, can, if they so wish, send their apprentices to additional courses at inter-plant training centres. Alternatively, apprentices can complete parts of their training in other firms.

The standardized "dual system" has one great advantage: the same directives apply nationwide. In other words, a goldsmith, who has learnt his trade in Munich, can move to Hamburg or Cottbus without having to take further examinations: the same training principles are valid throughout Germany. This provides the craft trades with complete mobility.

The responsibility for this "dual system" rests on two shoulders: the Federal Ministry of Economics is responsible for on-the-job training and the *Bundesländer* for the vocational schools. The reason? The modern industrial society is dependent on differentiated availability of training. A centrally-organized school system would be too cumbersome for such demanding requirements. Consequently, the federal structure provides an ideal opportunity to promote and develop the individual skills and inclinations of all young persons.

Every skilled trade has its own training regulations. These are drawn up jointly by the handicraft associations, academic bodies and the trade unions. The Federal Minister of Education, Science, Research and Technology is called in for the preparation of the final version. All vocational training regulations contain binding stipulations on:

1. the length of training,
2. the job description of the apprenticeable trade, i.e. the skills and knowledge which trainees have to be taught,
3. the training framework, the thematic and chronological pattern of skills and knowledge,
4. the examination requirements.

The regulations can be more flexibly applied in the case of apprentices who wish to further qualify beyond their trade training, such as acquiring *Abitur*, i.e. university entrance qualification. The managerial assistant model offers this opportunity.

The training of apprentices

An old German adage claims that *"Handwerk hat goldenen Boden"* i.e. a trade in hand finds gold in every land. The binding directives for the training of apprentices are designed to safeguard the quality of craftmanship and combat competition from industry and other countries.

The Vocational Training Act for the Handicrafts was 25 years old in 1994. The apprenticeships offered embrace the industrial-technical and commercial occupations. In all, there are 127 different apprenticeable trades in the skilled crafts sector. They are divided into seven groups:

1. Building and finishing trade
2. Metal trade
3. Wood trade
4. Clothing, textile and leather trade
5. Food trade
6. Health-care and hygiene trade, the chemical and dry-cleaning trade
7. Glass, paper, ceramic and other trades

A further 50 craft trades are allocated to special groups within the organization of the handicrafts.

Some of the skilled trades, of course, are not very popular. Very few school leavers want to be butchers, bakers, painters or varnishers. In this context, the level of remuneration is an influential factor. A baker's apprentice, for instance, only earns a monthly sum of DM 570 net. This tempts very few persons to learn their trade at the ovens of the 24,700 bakeries in Germany. At a net income of DM 1300 a month, the bricklayers, on the other hand, top the scale of monthly earnings. For this reason, many forego their dream job of motor-vehicle mechanic which continues to enjoy first place among future apprentices in the craft trades.

Training in the craft trades is becoming increasingly popular. *Abiturienten* (persons who have acquired their *Abitur*) in particular, are entering the craft trade sector more and more. The reason for this is the increasingly-difficult university entrance conditions, on the

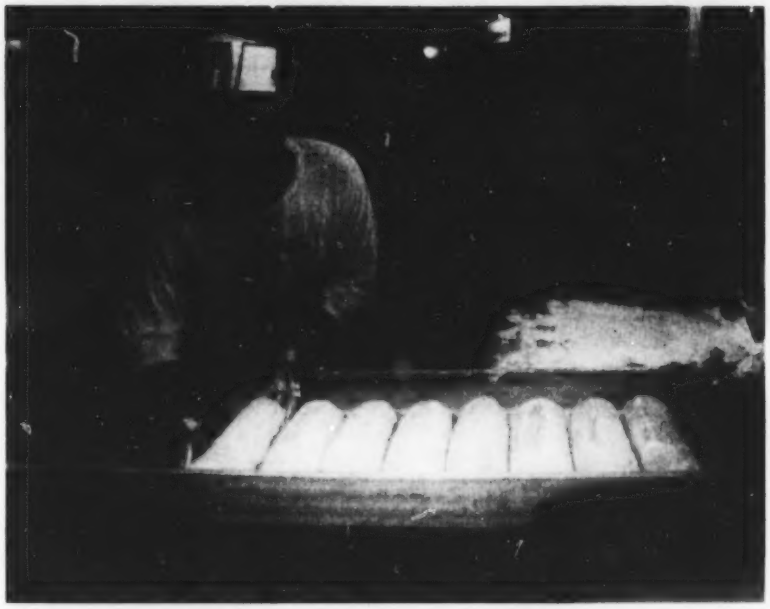
one hand, and the rapidly-dwindling professional opportunities for young academics, on the other. Consequently, many *Abiturienten* choose to first complete a course of trade training, putting off commencement of studies to a later date.

Craft-trade training names the following basic requirements to learn a craft trade: dexterous hands, technical understanding, creative ability and a creative mind.

Depending on the trade in question, training lasts from three to three-and-a-half years. The period of apprenticeship can be shortened (but not to less than two years) or extended.

In the first year of training, apprentices receive a broadly-spanned vocational foundation. It is not until the second year that they start to specialize more and more for a particular craft trade. In this second year, training is often still provided for several occupations simultaneously. The acquirement of a skilled craft qualification permits apprentices to practise a particular profession. The better the training, the better qualified the subsequent craftsman.

The responsible minister – usually the Federal Minister of Economics – issues training regulations for every single occupation. These set out the mandatory pattern to be followed by the training course. The requirements are based on those of the professional and working world. They are, in fact, minimum requirements which, as a result of rapid technical development, have to be constantly re-examined and revised. The aim is to adapt training as quickly as possible to new developments. Furthermore, these vocational profiles guarantee a uniform training standard for all apprentices learning a trade in Germany



Master baker in the bakery Photo: V. Gräfingholt

The basic requirements to learn a skilled craft are dexterous hands and technical understanding Photo: DaD/Heinz Held

Who is allowed to provide training?

Only firms with instructors who are qualified to teach their particular trade are allowed to provide training courses. In addition, the firms themselves must meet the requirements of the training regulations. They must have the necessary technical installations or be in a position to have an apprentice trained in a firm which has the required equipment.

From apprentice to journeyman

The final examination at a vocational school and the journeyman's examination before an examination committee of the handicraft chamber round off the multi-year apprenticeship.

The examination committee consists of at least three persons. It is made up of representatives of the employers, employees and the vocational schools. The committee is formed for a period of three years. The apprentices are only examined if their period of training has been properly concluded, all prescribed intermediate examinations have been successfully completed and their report books correctly kept.

The examination consists of two parts: a practical section, with the so-called "journeyman's piece" – a joiner, for instance, must submit a perfectly-made chair, a varnisher a flawlessly-varnished workpiece – and a theoretical section.

The master craftsman's examination

The next step-up in the handicraft sector is the master craftsman's examination. The latter is voluntary, not obligatory, but is nevertheless much sought-after. The number of those attending master craftsman's courses is growing steadily.

There are various reasons for young would-be master craftsmen wanting to take this examination. More than half of all those following a master craftsman's course want to set up shop on their own and build up an independent existence. Furthermore, the examination is the highest official diploma, i.e. qualification, in the handicraft sector and the title of *"Meister"*, i.e. master craftsman, enjoys great prestige internationally.

The master craftsman's examination consists of four parts. Parts 1 and 2 require evidence of practical and theoretical knowledge in the trade concerned. Parts 3 and 4 call for interdisciplinary skills. A future master craftsman must show that he is well-versed in business and legal matters, and has instructional competence in both the vocational and work sectors. The examinations have to be completed within a period of five years. The examinees can attend courses run by the handicraft chambers and master-craftsman schools on a full or part-time basis. Depending on the trade in question, 3 to 7 months is prescribed for the practical and theoretical sections of the examination. For the interdisciplinary examination, the would-be master craftsman must reckon on a period of 10 weeks to 9 months. The master craftsman's examination is designed to ascertain whether the examinee is capable of managing a craft establishment and training apprentices in a proper manner.

Something of interest for statisticians: every second new master craftsman comes from the metalwork sector, every third from the building and finishing trade. Then comes a large gap until one comes to the trades in the health-care and hygiene group and the wood trade.

In 1993/94, the average age of newly-qualified master craftsmen was 30. This could be lower in future. The new 1993 handicraft regulations have eased access to the master craftsman's examination. The chambers cannot demand more than three year work experience as the basic condition for the examination. This means that anyone who has passed his journey's examination, can take the master craftsman's examination after two or two-and-a-half years.

By means of this amendment it is hoped that the average age of new master craftsmen will drop and that the 26 to 30-year-old group will be embarking on master craftsman's courses to a greater extent than hitherto. At the same time, the number of master craftsmen with a better educational background is constantly growing. Whereas only every fifth master-craftsman candidate had *Mittlere Reife* (Intermediate School Certificate) in the 1986/87 year group, it was already every third in the 1993/94 year group. The number of *Realschule* (Intermediate School) pupils and *Abiturienten* already accounts for 42%. Compared with the educational background of the apprentices, this group is clearly over-represented.

The Federal Institute of Vocational Training, however, has drawn attention to the fact that the market for master craftsmen is limited. Anyone wishing to set up on his own can qualify in other ways. Many vocational and technical schools offer courses in the new technological sectors. They train persons, for example, in automation engineering, control engineering (hydraulics, electropneumatics, programmable control-engineering storage or statistic process control). The Federal Institute views this as a stabilization of the "dual system".

Legal Basis: the Handicrafts Code

The Handicrafts Regulation Act came into force on 17 September 1953. It enshrines the legal regulation of the organization, training and master's examination for the craft trades. In addition, the law lists all skilled crafts.

The act was amended in 1965 and, almost 30 years later, on 1 January 1994, the Handicrafts Code was updated once more. The ZDH (Central Association of German Handicrafts), the Federation of German Trade Unions and the *Kolpingwerk* (Catholic Association of Apprenticeable Trades) did the spade work for the act. The most important signal given by the amendment is that the master craftsman's examination will be retained within the framework of the European Union's single market. This is designed to safeguard the efficiency and equal opportunity of German craft firms long-term, and, in addition, to guarantee the qualified training of new blood.

The cornerstone of the new handicrafts code is the opportunity registered craft firms now have to undertake other skilled crafts. By means of this amendment, the legislators are taking into account the wish of many customers to have "services performed by one firm". This means:

- ▷ An artisan may now do work performed by other skilled trades provided it complements the service

Master hairdresser and customer Photo: V. Gräfingholt

he offers technically, professionally and economically.

- ▷ An artisan must apply for permission before he can also perform other skilled work. He must, however, offer proof of the required knowledge and skills to do so.
- ▷ According to the new regulations artisans may perform work other than that of their particular trade which is economically related to their own. The manager of the craft firm, however, must possess the required qualifications for the specialist work.
- ▷ The requirements for the related crafts have been relaxed. It is now possible to combine certain trades.

The combining of certain craft trades, however, is not undisputed. As far as training is concerned, it is feared that the requirements have now grown to such an extent that an apprenticeship of three to three-and-a-half years is not long enough to be able to learn a second craft trade on the side, so to speak. Furthermore, the ZDH points out that, in the industrial-technical occupations, in particular, a high level of theory has now been reached as a result of rapid technological development without which even minor services can frequently not be mastered.

Further training in the skilled crafts

Occupational further training is important for craft firms, for artisans themselves and society at large. After all, German industry, with its high production and wage costs is dependent on a high level of productivity and outstanding quality of goods to maintain its position in world trade.

Consequently, continued vocational training is of crucial importance to keep industry at an efficient level. However, because firms in the skilled crafts sector are small, further training presents difficulties. As a result, it must, to some extent, be undertaken during free time.

Specialized knowledge and ability can become quickly outdated unless they are updated and further developed. Further training helps artisans to safeguard their professional competence. Moreover, such training is essential if employees are to take on tasks involving other or more advanced requirements.

Thus, apart from offering artisans the opportunity to adapt and update their skills and knowledge, continued training also provides the basis for professional advancement and, consequently, improved social status – and, of course, a larger income. It is not least for this reason that craft firms are interested in promoting qualified staff and putting them in responsible positions.

To ensure that the practical relevance is preserved, continued training is undertaken first and foremost within the firm, mainly at the workplace. The use of interplant or non-plant facilities plays only a secondary role. In view of the growing demand for further training, cooperation between firms and interplant training centres will, of necessity, likewise increase. Cooperation between industry and universities and *Fachhochschulen* (colleges for higher professional training) will also be of decisive importance in future. In addition, the staff and special resources of the vocational schools are also made use of.

The costs of continued training, based on the facility concerned, are borne by the firms, the public purse, the Federal Institute of Labour or by the trainees themselves. Craft firms are investing heavily in continued training: over DM 50 billion in the last two years.

Foreigners in the handicraft sector

The number of foreign young persons in the crafts sector is increasing steadily. According to the ZDH, the crafts sector has now become the major instructor for young foreigners. In 1993, more than 55,000 young foreign nationals completed a handicraft apprenticeship. This represents almost 10% of all apprentices in the German skilled crafts sector.

Adnan, 14 years old, wanted to be a motor mechanic. In one firm, however, they said he needed to be good in mathematics and physics and "I'm not", he says. What can be done to

help? The Federal Institute of Labour has set up a special programme with courses and coaching for disadvantaged and less able young persons. It is officially known as "Concomitant Training Assistance" (abH). In particular, it is designed to motivate young foreigners, as well as those with problematic family backgrounds.

Young aliens are especially well represented in the metal and electrical trades. Most young foreign craft apprentices come from Turkey (about 42%), followed by young persons from former Yugoslavia and Italians.

The ZDH comments positively on foreign apprentices, stating that most of them display exceptional talent in the craft trades. The balance sheet of the annual "Practical German Youth Competition in the Handicrafts" confirms this: young foreigners are often to be found on the winners' rostrum at chamber, state and national level.

Craft training for slow learners

Purposeful concepts are being evolved in the handicraft sector to give educationally subnormal young persons the opportunity to learn a trade. The Association of German Chambers of Handicraft Trades has made a start in Nuremberg with a pilot training scheme for young persons with learning difficulties in the following trades: painter and varnisher, metalworker, gas and water fitter. The working daily round of the young persons was systematically planned with the personal commitment and instruction on the part of the training staff and a special on-the-job training plan. In this way, the young persons are to be integrated and their training organized in a more readily comprehensible manner. These young persons – most of whom have failed to acquire a *Hauptschulabschluß*, i.e. Main School Certificate – are given greater opportunities in the handicrafts than in other sectors. In the 1992/93 training year alone, 6.2% of all new indentures was accounted for by young slow learners.

During the course of technological development, new skilled crafts have sprung up. Radio and television engineer Photo: D. Grafingholt

The organization of the handicrafts

"The German dual system of vocational training – an export hit" – "Handicrafts chamber as development helper in Africa and Asia" – "The autonomy of the handicrafts takes the strain off the state". This is how the skilled crafts and their organization make front-page news in Germany time and again. This organization is a structure which has grown over many decades and has proved its worth as a regulative framework.

Craft firms are all members of guilds which join together in the district craftsmen's associations. In turn, the latter combine in the handicraft chambers which meet together at national level in the ZDH (Central Association of German Handicrafts). The ZDH represents the overall interests of the craft trades vis-a-vis the *Bundestag*, the Federal Government, the European Union and international organizations. From its head office in Bonn, it coordinates the uniform policy formation of its associations.

The handicraft chambers advise craft firms on technical, managerial, financial and legal matters. They keep the *Handwerksrolle*, i.e. a register of all craft firms in Germany, and monitor vocational training. The handicraft chambers are all combined in the Association of German Chambers of Handicraft Trades (DHKT).

The *Land* (state) guild associations represent the professional interests of the individual craft trades. They are combined in the National Federation of German Handicraft Associations (BFH).

Professional prospects

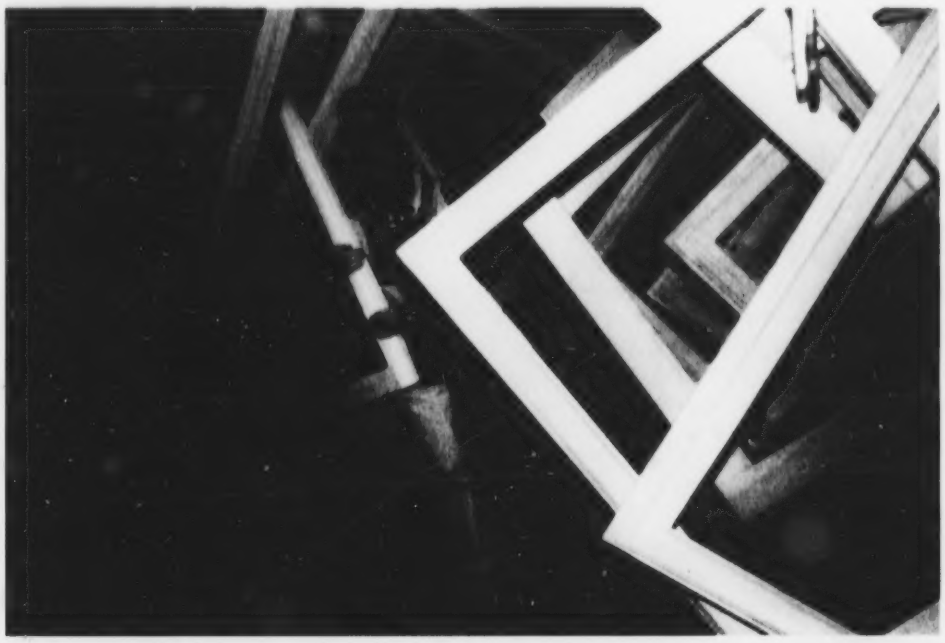
On concluding his three to three-and-a-half years of training, the apprentice has to take the journeyman's examination. Anyone who has passed this examination can take the master craftsman's examination after two or two-and-a-half years. As a master craftsman he can either set up his own or continue to work in the employ of a handicraft firm. There are numerous in-training and continued training facilities for professional advancement and greater opportunities of earning a larger income.

Examples of skilled crafts

The examples were kindly made available by the Koblenz Chamber of Handicraft and are taken from their catchment area. As we cannot present all 56 chambers of handicraft (addresses are given in the appendix), we have chosen one which – with its training centre (Metal and Technology Centre, Koblenz) – is one of the most distinguished and modern facilities in Europe. We would like to thank the Handicraft Chamber and its press office for their excellent cooperation.

Thilo Schwarz (20), honoured as Germany's best young glass and window-fitter in 1993, will carry on running a 370-year-old firm.

Photo: hwk-Koblenz



Glass has a binding quality

The work of generations: 370-year-old handicraft firm

"May God protect the vine, may God protect the wine, may the hail smash the window panes!" With this saying, the glazier and window-fitter trade hoped for a sound work basis in former times. This saying was confirmed in the case of Messrs Schwarz, a glazier family from Holzappel (Rhine-Lahn County): every generation has had enough to do since the firm's foundation in 1624.

Reimund Schwarz is Number Ten in the generation list. Thilo, his son, the best up-and-coming young German glazier in autumn 1993, will continue the work of his forefathers. How is he going to handle the 370-year-old family tradition?

"Just fine. To think about it everyday, however, would be a waste of time. With my training and daily work, I am well prepared to carry on running the firm." Although they can look back on centuries of tradition, Reimund and Thilo Schwarz are concerned with the future. Investment must be made in new production plant, operations in the firm must be streamlined. "Technical standstill would mean the end of the firm sooner or later!"

Neither are such thoughts in Holzappel prompted by the economic recession in recent years. The glazier firm of Schwarz did not suffer a trough. Not one of their staff had to be dismissed, their order book is filled for months ahead. Is there a secret to their success? "No. As a craftsman you are involved too much in your work and experience everything at close range. Fluctuations are consequently recognizable at an early stage!" says Reimund, describing the firm's philosophy.

Whether it is a matter of thermoglass for private house-building in Frankfurt or bullet-proof glass for the *Bundeswehr* in Cologne – the family-owned glazier and window-fitting firm will continue to make history with its extensive range.

Surfer and sailmaker

At home on the world's oceans – successful in an unusual craft

Hawaii, China, Hong Kong, the Bahamas: the world of professional surfer, board and sail specialist Heinz Studlek is large. Sails need a lot of canvas in the breakers; in the proximity of the equator the material must be ultraviolet-resistant.

"Every surfing area requires a special sail," says Heinz.

The surfing sails by this 35-year-old artisan and active sportsman are "custom-made", i.e. made by hand and cut to the customer's special requirements – unlike industrial production in the Far East which accounts for 95% of world production. This is why the young craftsman entrepreneur specializes in repairs.

Dealers and surfers from all over Germany send their triangular sails to the highly experienced cloth specialist who repairs and returns them within 24 hours.

He completes up to 3,000 repairs a year. The manufacture of his own, new sails is modest in comparison: 50 a year and all individual orders. "We can't compete with mass production in the Far East pricewise. We only make sails on order," says the surfsail-maker. These individual orders cost between DM 800 and 1300 each.

Heinz learned his trade at the *haute école* of sailmaking, i.e. under Monty Spindler, one of the world's top sail designers.

The materials used are foil, PVC and sailcloth which are sewn together in varying combination, depending on the type of sail. The new monofilm-foil is stronger than cloth (50% less stretching at the same weight) and does not absorb water.

Personal surfing experience is incorporated in this young skilled craftsman's work: Heinz Studlek repairs and makes surfing sails.

Photo: Holger Kern

The combination of (sporting) verve and craftsmanship are responsible for the success of this small but profitable handicraft firm. Thoughts are now being given to taking on additional staff.

A challenge

Hoppen's wrought-iron workshop restores the Cologne Cathedral cross

The small parish of Leubsdorf in Neuwied County is probably known to very few people outside the region. Even so, the village is one of the first addresses when quality wrought-iron work is sought after, for it is here that Sebastian Hoppen has his workshop.

It was therefore not by chance that this metal worker in the wrought-iron sector was commissioned to protect the

bronze cross on the chancel roof of Cologne Cathedral – the cross is one of the largest and oldest of its type – against wind and weather.

The cross, which has an outer covering of gold, was probably made around the year 1300. It is much older than other parts of this Gothic cathedral. Although the building of the latter began in the mid-13th century, it was not completed until 1880. 8.70 metres high and 2 metres in spherical diameter, the cross "towers" over the city.

"Within three months, we had given the cross a general overhaul and a primer, then we gave it two coats of platinum gold. At least three men were working on it simultaneously," Hoppen recalls.

The chancel cross, however, is not the only thing the experts from Leubsdorf have completed in this internationally famous House of God. "My father was working here 35 years ago," Hoppen tells us.

This wrought-iron craftsman knows the value of highly qualified staff for his firm. "The work of my journeymen often equals or even surpasses

Photo: hwk Koblenz

the quality of masterpieces," says Hoppen proudly. The fact that this statement is by no means an exaggeration is confirmed by an oversized candle-holder which was recently given as a present by the Camillus Nuns from Asbach/Westerwald to Pope John Paul II.

The candle-holder, which was designed by Hoppen, symbolizes charity and the Holy Trinity. The candle-holder was made with a great deal of time and energy by Matthias Schneider. This wrought-iron journeyman is one of Hoppen's staff of eleven. In more than 100 working hours, he completed an object which fulfils all the requirements of good wrought-iron work. Nothing was soldered. All joints were turned, mortised or bonded.

The 37-year-old craftsman forged the surfaces so precisely that there are no visible hammermarks. He also dispensed with artificial dents which laymen assume time and again are the "hallmark" of a successful piece of work.

Generating electricity on the spot

Craftsmen with regenerative energy on new paths

Photo: hwk Koblenz

Years ago the offer of "electricity without cable connection" would have been given a sceptical reception as completely bogus. Today, "mobile current" is nothing unusual. But the *Werkstätten – Elektro- und Fernmeldebau* from Hachenburg in the Westerwald took a further step. Apart from the laying and installation of telephone and electric cables, generation of power "on the spot" has also established itself in the firm – thanks to sun and wind.

Five years ago, the firm, which was founded in 1949, adopted new means

of eletricity-supply with solar and wind energy. Since, up to that time, the conventional supply of power via cable was the only way of guaranteeing remote places with the "magic juice", mastercraftsman and head of firm Uwe Hummrich experimented with the attempt of harnessing nature's energy on the spot. For some years, for example, regenerative energy on a limited scale has been used in solar pocket calculators and watches. But the Westerwald experts were thinking in greater dimensions. We are travelling along on Autobahn 61 from Mainz in the direction of Bonn. The task: installation of a traffic-control system. For this purpose, a large number of "counter-cycles" are required to register the number and speed of vehicles.

Cabling the autobahn costs DM 100 per metre. At DM 17,000 each, the combined solar-wind mini-power stations offer a financial alternative. Once set up, an installation of this type generates and stores electricity maintenance-free, even in those cases where sun and wind are a rare commodity.

The only reservation is its maximum capacity of 350 watts. Were the investments in this innovative technology in research and development not too venturesome for a medium-sized firm? Uwe Hummrich dismisses this on the grounds that experience has already been gained with wind and current-wheel constructions used for navigation. "The beacons in the sea-lanes function in a similar fashion to our method. Why shouldn't mini-power stations likewise function on an autobahn or a main road ...?" The success has proved this future technology right.

Acoustic handicraft

Jazz musician Larry Coryell swears by a "Gose"

Georg Gose, the "Master of Plucked String Instruments" from Koblenz, got to know Larry Coryell, the American "Master" of swing and jazz, at the Frankfurt Music Fair. Why was Larry Coryell so fascinated by the "Gose Guitar?"

"My guitar resembles the French jazz guitars produced by the well-known firms of Macaferri and Jac Favino in the 1930s. The sound has changed and is so versatile that you can play swing of every type, bossanova and even classical pieces," Georg Gose explains. His jazz guitars cost between DM 2,800 and 7,000.

Anyone visiting his one-man workshop is surprised by his storekeeping. Wood everywhere you look. Good wood is the basic requirement for a good instrument. He makes his guitars from naturally-dried wood which has seasoned for 15 to 20 years. He uses maple, walnut and palisander for the back and sides, pine or cedar for the soundboard and mainly mahogany for the neck.

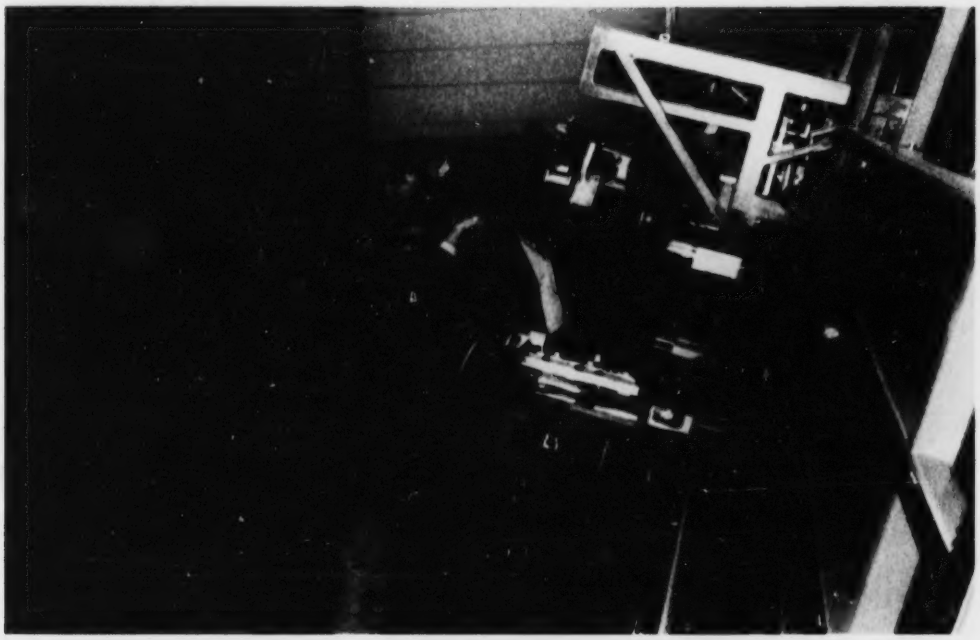
Without exception, every instrument is handmade. Soundboard and back are made from one piece of wood in each case. The pieces are then jointed, planed, polished and glued together to the desired strength. The neck is shaped from rough wood.

It is narrower and longer than a classical guitar. This guarantees greater speed and room for solo work. Master Craftsman Gose attaches great importance to a flawless mechanism. He uses corrugated steel to prevent the strings slipping. Georg Gose takes 80 hours to make a guitar. "It is impossible to make a highly sensitive jazz instrument as if it were piecework. This is why the time it takes to manufacture a guitar is spread over two months," he explains.

Georg Gose's occupation is his passion. "There's a bit of me in every instrument. You can't measure that in hours and money," he says. He is understandably proud of the fact that Larry Coryell swears by a "Gose".

Machine-building in single-piece construction

From a room-sized workshop to a modern craft enterprise of international standing



This is what modern, dynamic handicraft looks like. Messrs Stürtz has grown bit by bit.

Photo: hwk-Koblenz

"CIM-structured, modular-designed manufacturing systems" is the name of what the 150-strong workforce at Messrs Stürtz in the hamlet of Rott near Neuwied-on-Rhine produces and sells worldwide: window-manufacturing plants, confectionery machines, packaging and boxing machines. The interlinking of the whole firm by means of computers plays a major part in this connection. CIM is the acronym for "Computer Integrated Manufacturing" and means the use of electronic data processing in all the firm's sectors involved in production.

The know-how at Stürtz, however, is such that it could build completely different machines producing completely different products since it is basically all a matter of movement. What emerges as a result can be changed at will.

Since 1946, when Willi Stürtz, who repaired the bearings in electric motors for threshing and grinding machines in his 32-square-metre workshop, discovered an untapped market, new production branches emerged from his handicraft business decade after decade. Iron railings for bridges (Willi Stürtz: "All the Rhine bridges from Düsseldorf to Mainz"), rollers for winding up foil, extruder machines for the plastics industry, packaging machines, wire stitching machines for the printing industry and now window-production machines. Although they can only make the frames at the moment and cannot fit the glass, this will soon all change.

Bit by bit the enterprise has grown, new workshops were constantly erected. Next year, a further extension of 2000 square metres is planned.

This, then, is a picture of modern, dynamic handicraft. The staff are highly qualified artisans and have learnt their trade, such as metal work, from the bottom up. Production is – still – sound single-piece manufacture. Every machine leaving the factory has its own appearance and history.

About one-third of the equipment is exported to the USA. What's the situation like with regard to the German market and conditions? Are the environmental conservation requirements too severe? Are taxes oppressive? Is this family enterprise considering migration? Junior boss Stürtz, who studied business management at the *Fachhochschule* (college for higher professional training) in Koblenz, states: "We operate on specifically know-how lines. This would not be possible abroad. There, the time and energy devoted to supervision would be too great and the wastage rate too high. We shall remain in Germany and stand up for our products ..."

Good products are conceived in the mind. In handicraft, too.

Financing in the handicraft sector

Compensation and support for middle-class businesses

Apart from financial help from the Federal Government and the *Bundesländer* (federal states), firms in the small business sector in the Federal Republic can only turn to the banks as a source of finance, and because of their small size, they do not have access to the stock exchange or capital markets. This is why one speaks of a funding shortfall in this business sector.

The current level of bank loans in the handicraft sector comes to about DM 130 billion. This means that, on average, every craft business in Germany has a bank debit of DM 200,000.

To offset this disadvantage, state and semi-state institutions offer financial help.

This assistance is centred on new businesses, investments in business expansion, technologically oriented investments, environmental investments and investments in regions with below average economic strength.

Special institutes offer cheaper loans which are usually 2 to 3% below the interest rates of the capital market, and non-repayable subsidies of up to 18% of the investment volume. If they are unable to offer the required security, firms can also obtain bank loans on the strength of guarantees given by self-help institutions with state participation. The handicraft organizations advise and look after member enterprises in all matters concerned with finance and transaction.

Flexible autonomous organizations within the economy

The German handicraft chambers cover a broad spectrum

Every German handicraft firm is automatically a member of one of the 56 chambers of handicraft.

Although the latter have the status of public corporations, they nevertheless enjoy full autonomy within the economy and are able to make their own decisions completely independent of state offices. Apart from business proprietors, employees also have one-third representation in the chambers' organs and are involved in formation of policy.

The chambers' position is also expressed in their funding: apart from public subsidies, the main sources of income are the contributions by the member firms and remuneration for individual services.

The most important and statutory commitment of the handicraft chambers is the promotion of the interests of the crafts at all levels – from the local community to the EU with assistance from the ZDH.

Consequently, as part of the handicraft organization, they accompany the political decision processes at all state levels. Particularly in questions regarding "small and medium-size business policy", the political sector regularly seeks discussion with this organization.

The chambers' main work is concentrated on services for member firms. Experts in such specialized fields as business start-up, management, law, new technologies, environmental conservation, the training system and export provide handicraft firms with advice free of charge. Several of the chambers organize trade fairs, the main ones being Hamburg, Koblenz, Cologne and Munich.

To this must be added public relations work: the chambers deploy the whole of their PR machinery to create a positive image of the occupational sector of handicraft.

The broad spectrum of the handicraft chambers' responsibilities also includes:

- ▷ sovereign functions such as the examination system in vocational training,
- ▷ the registration of handicraft firms and apprentices,
- ▷ combating moonlighting.

In addition, they support public institutions with the preparation of experts' reports.

Not least, the handicraft chambers are also committed to development policy: in cooperation with the Federal Ministry of Economic Cooperation and Development joint projects have

been devised in various countries in Asia, Africa, Central and Eastern Europe, which are designed to support the building-up of an efficient small and medium-size business sector. In other words, situated between the public and private sectors, the chambers cover a wide field of activities. The variety of its commitments shows that the legislators have found an extremely flexible organizational form here.

The individual aspect and the freedom of choice

In a pluralist society, handicraft firms fulfil individual wishes. Ever since they have existed, the crafts react to the individual wishes of consumers. The customers determine the direction, individual solutions are the order of the day, off-the-peg products and services are the exception.

Anyone with a special wish – whether it concerns accommodation, clothing or food – can turn to the skilled crafts, to the highly qualified technical handicrafts, to the building and finishing sector, to the tailors, gold- and silversmiths, to the precious stone engravers, hairdressers, bakers and butchers.

Do the skilled crafts profit from the individualization of society? Were there so few private small and medium-sized firms in the former GDR because the people there all had the same wishes and needs which were easily satisfied by industry?

Hardly! It was more a case of a uniform society being easier to control and manipulate. In other words the freedom to realize one's own ideas and aspirations by means of personally chosen offerers is also a piece of political freedom.

How does consumer behaviour develop in a free and constitutional society? It goes without saying that it is also influenced and manipulated here. More through publicity and marketing rather than politically, however. The opportunities open to the skilled crafts to influence or even determine trends are very few in number. Consequently, craft firms must react very flexibly to changes in the market and in consumer behaviour – and be able to react.

The patent recipes of today are already outdated tomorrow. Consequently, a constant examination of business concepts is essential if firms are to survive. Even so, in principle, several developments can be established in consumer behaviour which should remain constant for the foreseeable future. This includes the fact that the average age of the population is increasing and older people represent greater purchasing power. It also includes enhanced awareness of the environment, an (actual or alleged) shortage of time, the need for distraction from the daily round, growing concern with health and an increased interest in design – to mention just a few important sectors.

The handicraft sector, with its 127 occupations, is well-equipped to cope with the various and changing requirements of consumers. The amendment to the Handicraft Law in 1994 also provided individual firms with the additional opportunity of offering increased services. The conditions according to which the skilled crafts function are regulated and guarantee continued existence. It is up to individual firms what they make of it.

Services galore

The range of tasks performed by the skilled crafts ...

There was once a well-known advertizing slogan in Germany: "Messrs XY are always there somewhere." And the same applies to the crafts. It is impossible to think of everyday life without them. Without skilled craftsmen, I would't have the house I live in. Without them, my car wouldn't be repaired, my newspaper printed, and my computer would be without "juice" if the electrician didn't provide me with a trouble-free supply of electricity.

The work of the skilled trades is concentrated on the manufacture of new products, including the installation of networks and connections (electricity, water, gas etc). Joiners, goldsmiths, bakers produce goods to satisfy daily needs which anyone can buy. Motor mechanics, chimney-sweeps, mechanical engineering fitters do repairs and maintenance for

private and industrial customers. They are service firms.

Other craft businesses act as suppliers for industry, such as metalworkers, electro-mechanics and toolmakers. Many large industrial enterprises have come to realize that it is more economical to farm out orders to independent craft firms than to manufacture and maintain everything under one roof.

The Federal Government, *Länder* and local authorities award public contracts. The crafts enjoy a substantial share of these. Painters and varnishers renovate public buildings such as schools, kindergartens and hospitals. The services of bricklayers, roadmakers, carpenters and many other craft trades are called on if the local authorities want to build a multi-purpose hall where clubs can meet or sports clubs can train. It is in the new *Bundesländer*, in particular, that the award of public contracts gave initial impetus to the resuscitation of the economy there.

The skilled crafts' chief customers, however, continue to be private households. The service provided ranges from repairing washing machines and television sets to orders from more affluent customers for handmade furniture, open fireplaces and doors. With growing prosperity ever-new groups of customers are seeking solidity and quality in the furnishing of their homes. This is presenting the crafts with new tasks.

Supermarkets for handymen and do-it-yourselfers have recognized this market gap: there are too few craft firms to satisfy the increased demand for repairs and services. What is more, the wages are too high for many people. As a consequence, hobby markets have experienced a boom as never before in recent years.

The crafts sector has adjusted itself to this development. The fact that people paper their own walls or pave their own garage entrances cannot be changed. On the contrary: handicraft firms offer their help when things get difficult or people can't make further headway. On the other hand, the chambers are cooperating with the authorities to prevent moonlighting from cutting the ground in increasing measure from beneath the skilled crafts' feet.

The art of design

The crafts travel new paths

Apart from quality and precision, the crafts are calling more and more for an eye for form and colour. This not only applies to goldsmiths, stonemasons, painters or precious stone cutters. Creative talent is in demand in many areas of the productive crafts. In so doing, they are securing a competitive advantage.

Despite the great responsibility borne by creative artisans, training and further training have so far only reacted in limited measure to these requirements. The origins of this development go back to the 1970s. At that time, the *Werkschulen*, institutions providing handicraft training of an artistic nature, were transferred to the higher education sector. This meant that artisans lost the opportunity of consolidating their skills and knowledge in design. Consequently, for some time now, the ZDH has been promoting continued handicraft training courses in design.

The target groups are chiefly master craftsmen and journeymen. Some handicraft chambers have even set up design academies where those interested can obtain the qualification "design in the skilled crafts". There is still no satisfactory provision for apprentices in this field, however. For the most part, the training regulations only provide for the teaching of comprehensive technological knowledge and skills. Furthermore, the current curricula are often concentrated on new products or new buildings.

As a result, the important sectors of redevelopment, renovation and architectural conservation frequently fall by

the wayside. The ZDH main committee for culture has consequently called for the inclusion of "design" in the framework curricula as well as the qualification as master craftsman and instructor in the special subject of "Design in the Skilled Crafts".

In addition to training and further training courses in design, courses for further qualification in restoration techniques are also being offered by some handicraft chambers. The Chamber of Handicraft in Koblenz is organizing corresponding further education measures. Over and above this, it is possible to acquire the qualification of "Restorer in the Skilled Trades". Corresponding courses are offered in Mainz, Ludwigshafen, Raesfeld and at the German Centre of Handicraft and Architectural Conservation in Fulda.

Within the framework of a pilot scheme, the Chamber of Handicraft in Koblenz is translating these demands into deeds. It is planned to include creative aspects in interplant apprentice training. In addition, with the introduction of a supplementary qualification of "Design Assistant in the Skilled Crafts", talented young persons are being offered a genuine alternative. The planned courses, which will run concomitant with training, are to last 36 months, i.e. 580 hours.

During the design course trainees will be taught to see things "artistically". They will develop a sense of form and colour and learn to distinguish between what is important and unimportant. The training, which is based on the arts-and-crafts traditions, will not only benefit the designers, as is the case with ceramists, but also apprentices in enterprises which have specialized in high-tech products. This applies above all to metal handicraft where, with the help of computer-controlled machines, individually designed products can be created, such as chess pieces, for example.

Not only because of his extensive craftsman's competence will the future design assistant be able to help strengthen the market position of "his" firm: his expertise in the marketing and sales sector will also play an important part. He will actively participate in the technical-economic management of the firm.

The great interest of firms in skilled staff who, apart from craftsmanship, can offer qualifications in design and business management, was revealed by a survey conducted by the Chamber of Handicrafts in Koblenz.

Children and young persons have a great creative potential which should be tapped at an early stage. Training as "Design Assistant in the Skilled Crafts" could prove to be a step in this direction. This does not mean, though, that adults have no opportunity to qualify. The Koblenz Chamber of Handicrafts has naturally set its sights on instructors. Within the framework of workshops, they have already been able to prepare themselves for their future commitments.

Important Addresses:

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ZDH-Vertretung bei der Europäischen Union
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Telefax: (003 22) 230 21 66

Bundesvereinigung der Fachverbände des Deutschen Handwerks
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Deutsches Handwerksinstitut e.V.
(German Handicraft Institute Inc.).
Max-Joseph-Str. 4/V
D-80333 München
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Telefax: (089) 55 34 53

Forschungsinstitut für Berufsbildung im Handwerk an der Universität Köln
(Research Institute of Vocational Training in Handicraft at the University of Cologne)
Herbert-Lewin-Str. 2, D-50931 Köln
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